SliceHub Data Analysis

Problem Statement:

SliceHub Pizzeria is a restaurant specializing in crafting and serving a variety of pizzas to its customers. However, the pizzeria is facing challenges in understanding customer preferences, optimizing inventory, and maximizing revenue. These issues are leading to potential customer churn due to the unavailability of popular pizza types and sizes, as well as inefficiencies in pricing strategies. Additionally, the company struggles with accurately forecasting demand and managing supply chain logistics, which could result in increased operational costs and lost sales opportunities. To address these challenges, an in-depth analysis of order patterns, pizza pricing, and revenue distribution is necessary to improve business decision-making and customer satisfaction.

Data Description:

Data Structure:

Table1: Pizzas

Columns: pizza_id, pizza_type_id, size, price

Table2: Pizza_types

Columns: pizza_type_id, name, category, ingredients

Table3: Orders

Columns: order_id, date, time

Table4: Order_details

Columns: order_details_id, order_id, pizza_id, quantity

Data Sets & Questions link:

https://github.com/AYaswanth123/SliceHub-Data-Analysis-Project

Tolls Used:

MySql

Questions & Answers:

1) Retrieve the total number of orders placed?

	TOTAL_ORDERS
▶	21350

The total number of orders is 21,350.

2) Calculate the total revenue generated from pizza sales?

	TOTAL_REVENUE
▶	817860.05

The total revenue is 817,860?05.

3) Identify the highest-priced pizza?

	PIZA_NAME	PRICE
▶	The Greek Pizza	35.95

The pizza name is "The Greek Pizza" and its price is 35?95.

4) Identify the most common pizza size ordered?

	SIZE	COUNT
▶	L	18956

The size is "L" and the count is 18,956.

5) List the top 5 most ordered pizza types along with their quantities?

	NAME	QUANTITY
▶	The Classic Deluxe Pizza	2453
	The Barbecue Chicken Pizza	2432
	The Hawaiian Pizza	2422
	The Pepperoni Pizza	2418
	The Thai Chicken Pizza	2371

6) Join the necessary tables to find the total quantity of each pizza category ordered?

CATEGORY	QUANTITY
Classic	14888
Supreme	11987
Veggie	11649
Chicken	11050

7) Determine the distribution of orders by hour of the day?

HOURS	ORDERS_BY_HOUR
12	2520
13	2455
18	2399
17	2336
19	2009
16	1920
20	1642
14	1472
15	1468
11	1231
21	1198
22	663
23	28
10	8
9	1

8) Join relevant tables to find the category-wise distribution of pizzas?

CATEGORY	PIZZA_TYPES
Chicken	6
Classic	8
Supreme	9
Veggie	9

9) Group the orders by date and calculate the average number of pizzas ordered per day?

AVERAGE_NUMBER_OF_PIZZAS
138

10) Determine the top 3 most ordered pizza types based on revenue?

NAME	PIZZA_REVENUE
The Thai Chicken Pizza	43434.25
The Barbecue Chicken Pizza	42768
The California Chicken Pizza	41409.5

11) Calculate the percentage contribution of each pizza to total revenue?

NAME	PIZZA_REVENUE	PER
The Hawaiian Pizza	32273.25	3.95%
The Classic Deluxe Pizza	38180.5	4.67%
The Five Cheese Pizza	26066.5	3.19%
The Italian Supreme Pizza	33476.75	4.09%
The Mexicana Pizza	26780.75	3.27%
The Thai Chicken Pizza	43434.25	5.31%
The Prosciutto and Arugula Pizza	24193.25	2.96%
The Barbecue Chicken Pizza	42768	5.23%
The Greek Pizza	28454.100000000013	3.48%
The Spinach Supreme Pizza	15277.75	1.87%
The Green Garden Pizza	13955.75	1.71%
The Italian Capocollo Pizza	25094	3.07%
The Spicy Italian Pizza	34831.25	4.26%
The Spinach Pesto Pizza	15596	1.91%
The Vegetables + Vegetables Pi...	24374.75	2.98%
The Southwest Chicken Pizza	34705.75	4.24%

12) Calculate the percentage contribution of each pizza category type to total revenue?

CATEGORY	PIZZA_REVENUE	PER
Classic	220053.1	26.91%
Veggie	193690.45	23.68%
Supreme	208197	25.46%
Chicken	195919.5	23.96%

13) Analyze the cumulative revenue generated over time?

ORDER_DATE	CUMULATIVE_REVENUE
2015-01-01	2713.85
2015-01-02	5445.75
2015-01-03	8108.15
2015-01-04	9863.6
2015-01-05	11929.55
2015-01-06	14358.5
2015-01-07	16560.7
2015-01-08	19399.05
2015-01-09	21526.4
2015-01-10	23990.35
2015-01-11	25862.65
2015-01-12	27781.7
2015-01-13	29831.3
2015-01-14	32358.7
2015-01-15	34343.5
2015-01-16	36937.65

14) Determine the top 3 most ordered pizza types based on revenue for each pizza category?

CATEGORY	PIZZA_NAME	REVENUE
Chicken	The Thai Chicken Pizza	43434.25
Chicken	The Southwest Chicken Pizza	34705.75
Chicken	The Chicken Pesto Pizza	16701.75
Classic	The Pepperoni, Mushroom, and Peppers Pizza	18834.5
Classic	The Pepperoni Pizza	30161.75
Classic	The Napolitana Pizza	24087
Supreme	The Spinach Supreme Pizza	15277.75
Supreme	The Spicy Italian Pizza	34831.25
Supreme	The Soppressata Pizza	16425.75
Veggie	The Vegetables + Vegetables Pizza	24374.75
Veggie	The Spinach Pesto Pizza	15596
Veggie	The Spinach and Feta Pizza	23271.25

Strategic Recommendations:

1. **Optimize Inventory:**
   Focus on better demand forecasting to ensure popular pizza sizes and types are always in stock, reducing the risk of stockouts.
2. **Targeted Marketing:**
   Promote the top 5 best-selling pizzas during peak ordering times to maximize sales.
3. **Refine the Menu:**
   Highlight top-performing and high-margin pizzas on the menu, and consider removing or updating less popular items.
4. **Improve Operational Efficiency:**
   Allocate more staff and resources during peak hours to reduce wait times and enhance customer satisfaction.
5. **Expand Premium Offerings:**
   Introduce more high-end or limited-time pizzas to tap into the premium market, increasing average order values.
6. **Embrace Data-Driven Decisions:**
   Regularly analyze sales data to stay agile and responsive to customer preferences, ensuring continuous improvement.

Conclusion:

To drive growth and enhance customer satisfaction, the company should focus on optimizing inventory, targeting marketing efforts on best-sellers, refining the menu, and improving operational efficiency. Expanding premium offerings and embracing data-driven decision-making will further strengthen the company's competitive position and profitability.

SQL Quary link: https://github.com/AYaswanth123/SliceHub-Data-Analysis-Project